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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/849,057	05/20/2004	Yoshinori Uchida	65933-088	6748

7590 05/22/2006

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EXAMINER	
DESIR, PIERRE LOUIS	

ART UNIT	PAPER NUMBER
2617	

DATE MAILED: 05/22/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/849,057	UCHIDA, YOSHINORI	
	Examiner	Art Unit	
	Pierre-Louis Desir	2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *22 February 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-4 and 6-13* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☐ Claim(s) *1-4 and 6-13* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *20 May 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *04/24/2006*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. The Art Unit location of your application in the USPTO has changed. To aid in correlating any papers for this application, all further correspondence regarding this application should be directed to Art Unit 2617.

Response to Arguments

2. Applicant's arguments filed 02/22/2006 have been fully considered but they are not persuasive.

Independent claims 1, 6, and 10 have been amended. Applicants argues that the amended feature, "a remaining period occurring between a planned change in the transmission rate and an end of the channel-allocation period" as a criterion for change is not disclosed or suggested by Oloffson. Indeed, adds applicant, Oloffson merely refers to throughput as a criterion for change.

Examiner respectfully disagrees with Applicants. Oloffson discloses that TDMA systems subdivide the available frequency band into one or several RF channels. The RF channels are divided into a number of physical channels corresponding to time slots in TDMA frames. Logical channels are mapped onto one or more physical channels, where modulation and channel coding schemes are specified. An RF link includes one or more physical channels that support the logical channels (see col. 2, lines 10-18). Therefore, link adaptation methods, which provide the ability to dynamically change modulation scheme, channel coding, and/or the number of used time slots, based on channel conditions, are used to balance the user bit rate against link quality. Generally, these methods dynamically adapt a system's combination of channel coding, modulation, and number of assignable time slots to achieve optimum performance over a broad

range of C/I conditions (see col. 2, lines 47-55). Also, Oloffson discloses that during an ongoing communication, user quality values are estimated based on channel characteristics, which are expressed in terms of variations and mean values of link quality parameters. The channel characteristics are derived based on measurements of link quality parameters over a predefined period. In this way, the system 10 estimates user quality values provided by available combinations of modulation and channel coding schemes of one or more RF links. By comparing the estimated user quality values of these combinations, a modulation and channel coding combination on an RF link that provides the best user quality value is selected (see col. 6, lines 49-61). The selection method starts by measuring link quality parameters of an RF link at a receiver that may be in the mobile station 12 or a BTS 20, block 801. If more than one RF links are available, the selection method may measure link quality parameters of all available links as well. Examples of link quality parameter measurements include C/I ratio, received signal strength, time dispersion on burst level, and raw BER on block level. The measurements are processed to determine the distribution of the channel characteristic measures (see col. 11, lines 33-47). Thus, a criterion for the change is based on the available time slot (remaining time slots) occurring between a change in the transmission rate planned by the change planning unit and an end of the channel allocated period.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-4, 6-13 rejected under 35 U.S.C. 102(b) as being anticipated by Olofsson et al. (Olofsson), U.S. Patent No. 6167031.

Regarding claim 1, Olofsson discloses a base station apparatus (see col. 7, lines 56-57) comprising: a communication unit which communicates with a terminal apparatus at variable transmission rates (see col. 5, line 50 to col. 6, line 2, and lines 27-37; col. 7, lines 31 to col. 8, line 2, and col. 8, lines 8-17); a channel allocation unit which allocates a channel to the terminal apparatus over a predetermined period (i.e., time period) (see col. 6, lines 37-40 and lines 49-51, and col. 8, lines 8-17); a change planning unit which plans timing for changing a transmission rate for the terminal apparatus in the channel-allocated period (see col. 6, lines 46-48, col. 8, lines 27-30, and col. 11, lines 12-22); and a change determination unit which determines whether or not it perform the change of the transmission rate for the terminal apparatus, based on a remaining period occurring between a change in the transmission rate planned by the change planning unit and an end of the channel allocated period (see col. 2, lines 10-55, col. 6, lines 49-65, col. 7, lines 11-17, and col. 11, line 33 to col. 12, line 17).

Regarding claim 2, Olofsson discloses a base station (see claim 1 rejection) further comprising a link quality derivation unit which derives link quality with respect to the terminal apparatus (see col. 4, line 42-to col. 5, line 2), wherein the change determination unit derives a remaining period of the channel for the case of changing the transmission rate, based on a length of the channel-allocated period and the planned timing for changing the transmission rate (see figs. 2-4, 8-9, and col. 6, line 37 to col. 7, line 17, col. 8, lines 9-35, col. 12, lines 12-47, and col. 12, lines 6-36), and further determines to perform the change of the transmission rate based on

the derived link quality depending on the derived remaining period of the channel (see figs. 2-4, 8-9, and col. 6, line 37 to col. 7, line 17, col. 8, lines 9-35, col. 12, lines 12-47, and col. 12, lines 6-36).

Regarding claim 3, Olofsson discloses a base station (see claim 2 rejection) wherein for the link quality with respect to the terminal apparatus, the link quality derivation unit measures link quality based on a signal received from the terminal apparatus (see col. 8, lines 18-35, and col. 11, lines 12-47).

Regarding claim 4, Olofsson discloses a base station (see claim 2 rejection) wherein for the link quality with respect to the terminal apparatus, the link quality derivation unit detects information on link quality which is included in a signal received from the terminal apparatus (see col. 8, lines 18-35, and col. 11, lines 12-47).

Regarding claim 6, Olofsson discloses a transmission rate changing method (see abstract) comprising: allocating a channel to a terminal apparatus over a predetermined period (i.e., time period) (see col. 6, lines 37-40 and lines 49-51, and col. 8, lines 8-17); planning timing for changing a transmission rate for the terminal apparatus in the channel-allocated period (see col. 6, lines 46-48, col. 8, lines 27-30, and col. 11, lines 12-22); and determining whether or not to change the transmission rate at the planned timing based on a remaining period occurring between a change in the transmission rate and an end of the channel allocated period (see col. 2, lines 10-55, col. 6, lines 49-65, col. 7, lines 11-17, and col. 11, line 33 to col. 12, line 17).

Regarding claim 7, Olofsson discloses a method (see claim 6 rejection) further comprising deriving link quality with respect to the terminal apparatus (see col. 4, line 42-to col. 5, line 2), wherein the determining includes deriving the remaining period of the channel for the

case of changing the transmission rate from a length of the channel-allocated period and the planned timing for changing the transmission rate (see figs. 2-4, 8-9, and col. 6, line 37 to col. 7, line 17, col. 8, lines 9-35, col. 12, lines 12-47, and col. 12, lines 6-36), and includes determining whether or not to perform the change of the transmission rate based on the derived link quality depending on the derived remaining period of the channel (see figs. 2-4, 8-9, and col. 6, line 37 to col. 7, line 17, col. 8, lines 9-35, col. 12, lines 12-47, and col. 12, lines 6-36).

Regarding claim 8, Olofsson discloses a method (see claim 7 rejection) wherein in deriving the link quality with respect to the terminal apparatus, link quality based on a signal received from the terminal apparatus is measured as the link quality with respect to the terminal apparatus (see col. 8, lines 18-35, and col. 11, lines 12-47).

Regarding claim 9, Olofsson discloses a method (see claim 7 rejection) wherein in deriving the link quality with respect to the terminal apparatus, information on link quality included in a signal received from the terminal apparatus is detected as the link quality with respect to the terminal apparatus (see col. 8, lines 18-35, and col. 11, lines 12-47).

Regarding claim 10, Olofsson discloses a recording medium storing a program which makes a computer to execute allocating a channel to a terminal apparatus via a wireless network over a predetermined period i.e., time period) (see col. 6, lines 37-40 and lines 49-51, and col. 8, lines 8-17); planning timing for changing a transmission rate for the terminal apparatus in the channel-allocated period see col. 6, lines 46-48, col. 8, lines 27-30, and col. 11, lines 12-22); and determining whether or not to change the transmission rate at the planned timing based on a remaining period occurring between a change in the transmission rate and an end of the channel

allocated period (see col. 2, lines 10-55, col. 6, lines 49-65, col. 7, lines 11-17, and col. 11, line 33 to col. 12, line 17).

Regarding claim 11, Olofsson discloses a recording medium encoded with a computer program (see claim 10 rejection), which makes the computer further execute deriving link quality with respect to the terminal apparatus via the wireless network (see col. 4, line 42-to col. 5, line 2), wherein the determining includes deriving the remaining period of the channel for the case of changing the transmission rate from a length of the channel-allocated period and the planned timing for changing the transmission rate (see figs. 2-4, 8-9, and col. 6, line 37 to col. 7, line 17, col. 8, lines 9-35, col. 12, lines 12-47, and col. 12, lines 6-36), and includes determining whether or not to perform the change of the transmission rate based on the derived link quality depending on the derived remaining period of the channel (see figs. 2-4, 8-9, and col. 6, line 37 to col. 7, line 17, col. 8, lines 9-35, col. 12, lines 12-47, and col. 12, lines 6-36).

Regarding claim 12, Olofsson discloses a computer readable medium (see claim 11 rejection) wherein in deriving the link quality with respect to the terminal apparatus via the wireless network, link quality based on a signal received from the terminal apparatus via the wireless network is measured as the link quality with respect to the terminal apparatus (see col. 8, lines 18-35, and col. 11, lines 12-47).

Regarding claim 13, Olofsson discloses a recording medium (see claim 11 rejection) wherein in deriving the link quality with respect to the terminal apparatus via the wireless network, information on link quality included in a signal received from the terminal apparatus via the wireless network is detected as the link quality with respect to the terminal apparatus (see col. 8, lines 18-35, and col. 11, lines 12-47).

Conclusion

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Pierre-Louis Desir whose telephone number is (571) 272-779. The examiner can normally be reached on Monday-Friday 8:00AM- 5:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Feild can be reached on (571) 272-4090. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Pierre-Louis Desir
05/11/2006

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